

The diagram illustrates a balanced push-pull amplifier circuit, labeled 20. It consists of two main sections: a Carrier Amplifier and a Peak Amplifier.

**Carrier Amplifier:** This section includes a Lange Coupler (34) that splits the input signal. The signal is then fed into two Class A transistors (22), labeled  $Q_{CLASS A}$ . Each transistor is biased by a current source  $I_{C1}$  connected to ground. The output of the Class A transistors is connected to a Matching Network (26). The output of the Matching Network (26) is connected to a  $\lambda/4$  Transformer (30), which is labeled  $Z_{OT}$ .

**Peak Amplifier:** This section includes a 50Ω resistor (36) connected to ground. The signal is then fed into two Class B/C transistors (24), labeled  $Q_{CLASS B/C}$ . Each transistor is biased by a current source  $I_{C2}$  connected to ground. The output of the Class B/C transistors is connected to a Matching Network (28). The output of the Matching Network (28) is connected to a  $\lambda/4$  Transformer (30), which is labeled  $Z_{OT}$ .

The outputs of the two  $\lambda/4$  Transformers (30) are connected to the RF Out signal.

**FIG. 1**

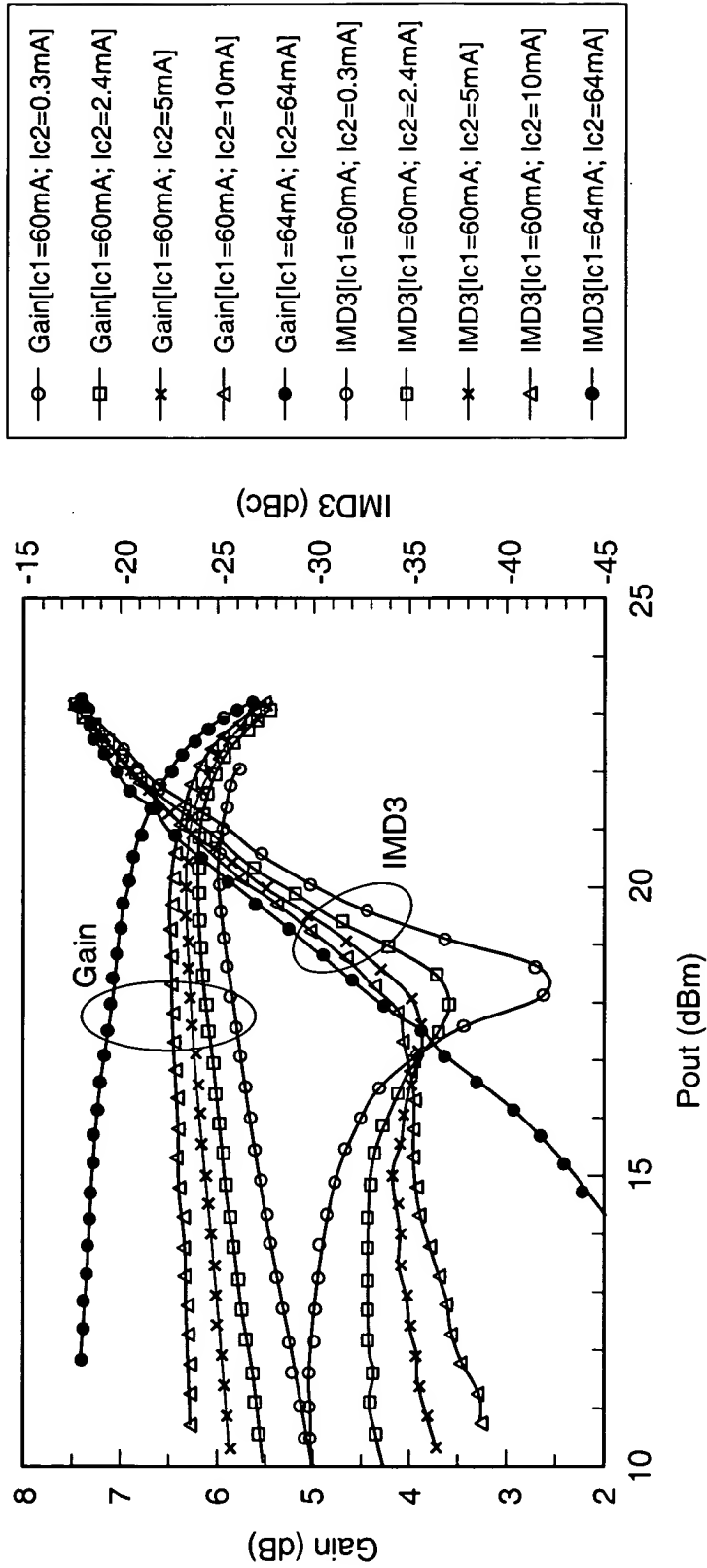


FIG. 2

# K-band InP DHBT Doherty Amplifier

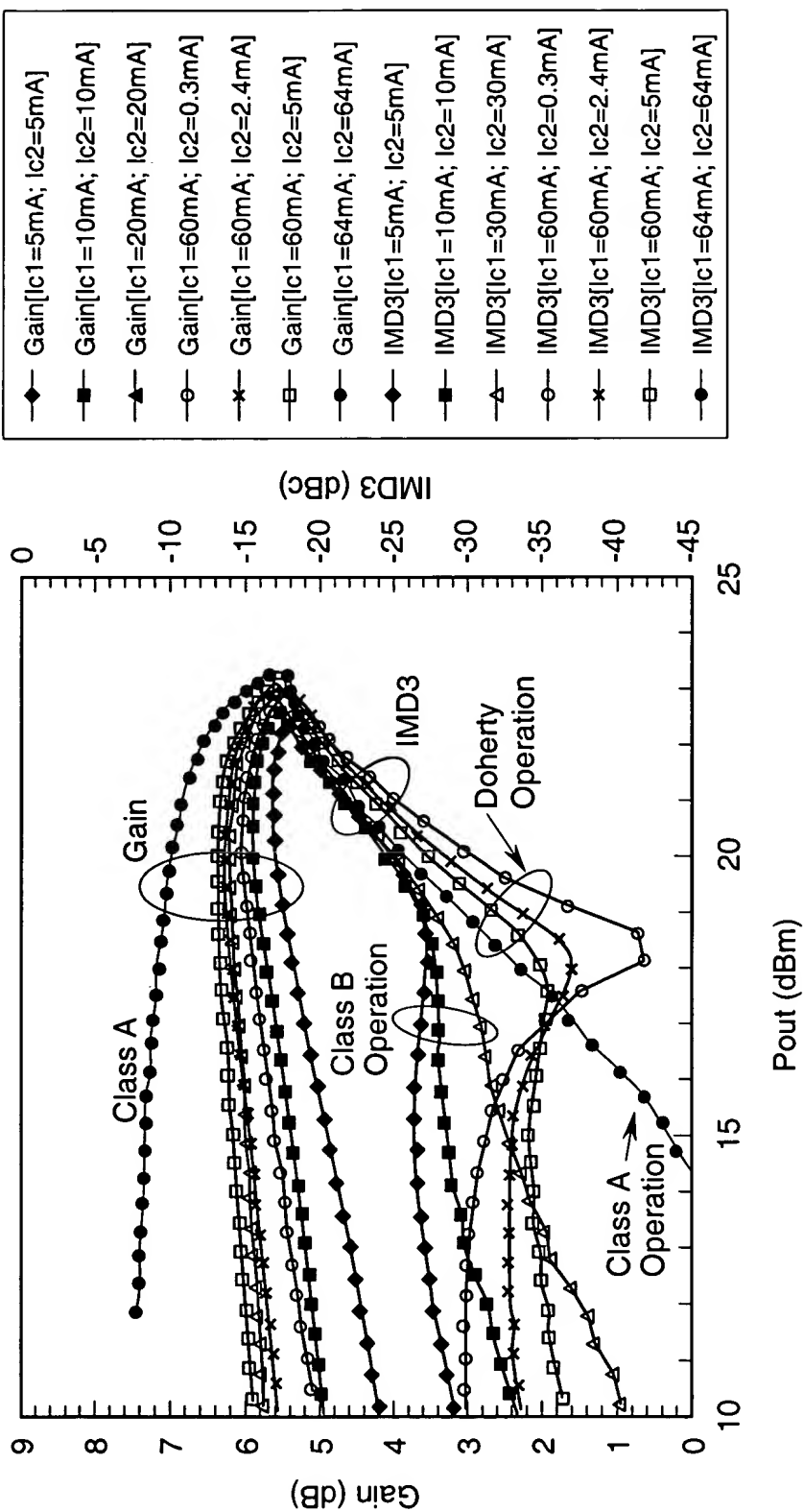


FIG. 3



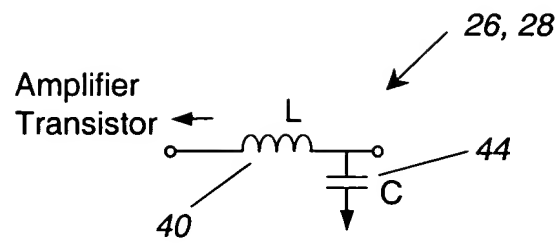


FIG. 5A

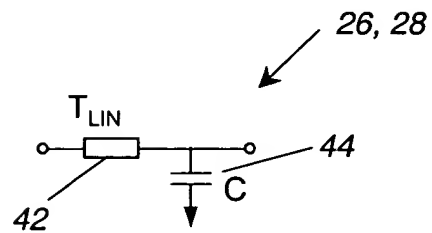


FIG. 5B

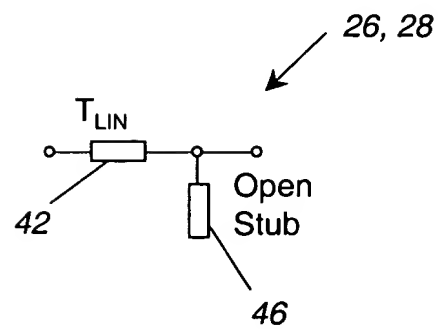


FIG. 5C

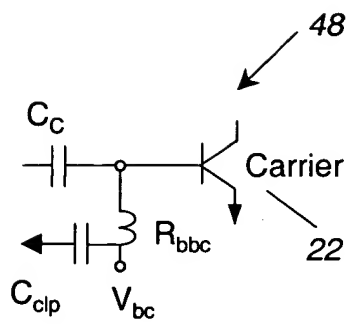


FIG. 6A

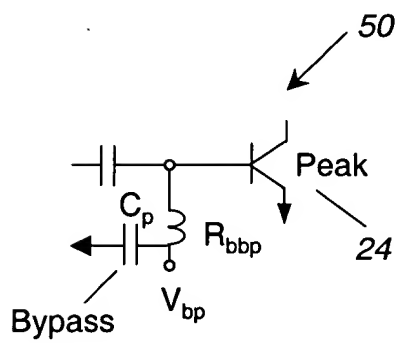


FIG. 6B